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PLANNING AND PLAN IMPLEMENTATION

JOURNAL SPONSORS ROUND-TABLE ON PRODUCTION PLANNING

Moscow PLANOVVOYE KHOZYAYSTO in Russian No 9, Sep 85 pp 31-41

[Paraphrase of statements at a 'Round table' of managers of large industrial organizations: "The Mobilizing Role of the Plan in Achieving High Final Results"]

[Text] It was noted at the conference hosted by the CPSU Central Committee on speeding up scientific-technical progress that under socialist conditions the main criterion for evaluating the performance of any economic unit should be attainment of the best final results and ensuring the fullest satisfaction of the needs of society. The management system and the economic mechanism must be aimed in that direction.

The journal's editors called upon a number of top managers of production associations to answer these questions:

Do the products produced by the enterprise satisfy the consumer? If not, then why is there production planned and continued? Is this problem related to the need to update technology and equipment and to subject production to reconstruction?

What is required to speed up the intensification of production and attainment of a growth of output by virtue of economy?

What sort of changes must necessarily be made in the system of indicators planned so that the enterprise would promptly update the list of products it produces and production technology?

By what indicators should the performance of enterprises be evaluated in order to promote the progress of production and satisfaction of the needs of people and the national economy?

How are work collectives, including brigades and sections, to be motivated to raise labor productivity, to reduce physical inputs, and to improve the operation of equipment and the organization of production?

V. Shcherbakov, general director of the Moscow Production Association for the Manufacturing of Automatic Production Lines and Special Machine Tools. The association's principal products consist exclusively of special products delivered to specific consumers on the basis of specific individual orders. The plan includes only those machine tools and automatic production lines which have been ordered by enterprises on the basis of technical assignments, technical specifications and calculations of economic efficiency which have been mutually agreed to. That is why by definition it is not possible to plan a product which the consumer does not need satisfy him in its technical-and-economic indicators. It is a different matter when in the process of running in and operating the product a customer sometimes files complaints related to what he believes to be the insufficient reliability of certain elements of our machine tools and automatic production line, to the need for improvement of operating convenience, repairability, and so on.

Since the orders are for a single item, and the product produced is very sophisticated, such occurrences are inevitable. The mechanical engineer and process engineer cannot take absolutely everything into account, and in addition sometimes the customer is not ready to assimilate up-to-date technology. Consequently, enterprises like ours must have a robust and highly qualified service department able to promptly solve all problems related to customer complaints, to train personnel, and to start up the machine tools and automatic production lines and get them into production. In order to do that, it must obtain in advance the right to set aside those physical and labor resources required to perform those operations (on the basis of standard allowances which would be established by Minstankoprom [Ministry of Machine Tool and Tool Building Industry] or in each specific case depending on how new the product is, in agreement with the customer). It would also be advisable to increase the remuneration of specialists doing installation and startup-and-adjustment work on the customer's premises. The size of the per diems they are paid does not offset the material and nonmaterial costs incurred in constant trips, and this in turn restricts the possibility of attracting conscientious and highly skilled specialists into this department.

Aside from its principal products, the association also manufactures consumer goods. Departments of the enterprise are constantly studying the demand for them, and should it drop off, they promptly settle the question of withdrawing from production or modernizing a product which has ceased to satisfy the consumer and the question of organizing the production of new products. But it is becoming more complicated to satisfy demand. The first obstacle is a lack of information about the future need for a particular product. The Pavilion of Best Exemplars and the association "Soyuzpromvnedreniye" propose the manufacture of many different consumer products. Organizing up-to-date volume production of a fairly sophisticated product takes two years and is very expensive (designing the product itself and the specialized equipment and gear, manufacturing it, perfecting the design to take into account manufacturing consideration, and so on). And when all this has been done, it not uncommonly turns out that the demand has dropped off. It would seem that those organizations ought to bear financial liability for their recommendations, that is, in such cases pay the enterprise the full cost of the preparation of production they have done, and that the plan for the output of

consumer goods over the period of putting other products into production should be reduced.

There is also a need to work out an economic mechanism that would motivate machine tool and tool building plants to promptly create specialized equipment and gear required for organizing the production of new products. This would make it possible to greatly speed up the process of organizing the production of new consumer goods. We have now been negotiating for five years with the Dmitrov Milling Machine Plant to make us machines for the production of keys for locks, and in the end we were forced to make them ourselves.

Strategies for the intensification and higher efficiency of the economy were defined at the April (1985) Plenum of the CPSU Central Committee, at the conference hosted by the CPSU Central Committee on speeding up scientific-technical progress, and in other decisions of the party and government. They come down to elaborating and fully applying the advances of scientific-technical progress and increasing discipline and justified exactingness in every economic entity.

The prestige of engineering work has to be sharply improved. The ordinary engineer's pay has to be increased to the level of the highly skilled worker so as to take into account the functions he performs (and the pay of the skilled engineer must correspondingly be considerably higher). It would be wise to reduce the number of positions which do not involve engineering, but are referred to as such (for example, engineer for supply, for social competition, engineer-economist, and so on), and to raise the pay of technicians to the present pay level of the ordinary engineer so that the duties of technicians are not passed on to the engineer "as part of his official duties."

In our view there is an absolute need to make distinctions in the procedure for allocating stocks of material and components between enterprises involved in volume production and those whose production runs are short. For the latter stocks should be allocated for a specific products list not uniformly for the year, as is now done, but for that calendar period (month, quarter) in which the output of the relevant production lot is planned. This will make it possible to substantially increase the rate of turnover of working capital.

The principal task of the machine-tool building industry is intensification of its consumers' production and raising the technical level (reliability, dependability, productivity, accuracy, the level of automation, and so on) of the machine tools and automatic production lines it produces, i.e., to achieve higher efficiency from the standpoint of the national economy in the final link of the chain, perhaps even at the price of a reduction of some indicators in its own production. One of the ways of enhancing motivation to solve this problem is to change the pricing practice by making the benefit to the national economy which it affords and confirmed by the consumer the sole criterion for the justifiability of the price of the new product regardless of the level of the planned rate of profit.

If the enterprise is to update the list of products it produces and the production technology when this becomes necessary, it is advisable to omit the

volume of sales and marketable output from the indicators of enterprise performance and introduce the coefficient of utilization of production capacity. Instead of the volume of sales contingent upon deliveries under contracts and orders what is needed is the indicator of the "level (percentage) of performance of deliveries under orders and contracts concluded on the basis of planning documents." The indicator "reduction of cost per ruble of marketable output" should be replaced by the indicator "reduction of cost per ruble of comparable marketable output."

It would seem to be necessary to do away with the indicator of normative net output, even for determining labor productivity. When there is a change in the labor products list, when there is a renewal of the products being produced, the labor intensiveness of manufacturing should drop thanks to improved technology and improved organization of work and production, and consequently there should also be a drop in the normative net output assigned to the product. But this is where the contradiction arises between the actual growth rates of labor productivity and the standard used to measure it. The indicator of normative net output is good for enterprises with a product list that is stable at least over the five-year period. But enterprises which are constantly updating their products are in a disadvantageous position. That is why in our view there is a need to replace it with the indicator "summary benefit to the national economy," even for evaluating labor productivity.

A criterion that determines how well the products produced by an enterprise meet the needs of society is fulfillment of delivery obligations. It is already doing a fairly good job, especially at enterprises operating under the conditions of the economic experiment. But a certain revision is needed. The sanctions of the manufacturing enterprise must come to an end when it ships the finished product and submits the finished bill to the customer. At present it is not that way at all. Even under the conditions of the experiment the supplier-enterprise is dependent upon the financial condition of customer-enterprises (the plan for sale adjusted for fulfillment of contract and job-orders has to be fulfilled even with respect to the absolute amount of sales). At our enterprises there have been cases which were not isolated when it had great difficulty fulfilling the plan for sales on the 31st even though it had a sizeable volume of products shipped. As a consequence we also ran short in our current account, and as customers ourselves we let our suppliers down. If possible, such situations should be eliminated by strengthening the role of Gosbank and Stroybank and their credit function in reinforcing the financial condition of the enterprise.

There is good reason to make that principal indicator the relative share of the output of products bearing the state Quality Emblem relative to the volume of products subject to certification rather than to the total marketable output. The indicator in effect at present is holding back technical progress, since it encourages enterprises to continue to manufacture one and the same product as long as possible because the new product put into production is not subject to certification for the first year or two and reduces that indicator.

There is a need to give more substance to the state Quality Emblem. Material incentives and supplements for producing products that bear it ought to be

much larger than the incentive supplements for the economic efficiency of products which do not bear the Quality Emblem. It would be wise to establish the supplement not as a percentage of the wholesale price, but as a coefficient applied to the supplement for economic efficiency, and that coefficient must be substantially greater than unity. Yet the portion of the supplement for the Quality Emblem must be credited to the developer, who at the present time has no material incentive to manufacture such a product.

Along with products bearing the state Quality Emblem, in machine building there is a need to introduce products bearing the "N" (novelty); their production should be planned and stimulated. This will make it possible to objectively evaluate the technical level of machines produced by an enterprise, since the sole indicator that exists today - the volume of output of products bearing the state Quality Emblem - does not fully characterize the operation of an enterprise to update its products.

It would be wise to establish a system of bonuses for project planning and design organizations for developing and introducing products that are included in the plan for new technology, at the same time abolishing the deductions made to the economic incentive fund for creation of such products. The size of the bonus ought to be two-three-fold more than the deductions which are made today to the economic incentive fund so as to clearly distinguish really new technology from the run-of-the-mill development projects, even though they also yield an economic benefit, and deductions for them would be retained.

There is a need to strengthen the financial liability of the head scientific research institutes of the branch for the technical level of the products developed and manufactured by the respective branches. The technical level of machines must be the principal criterion in evaluating the fulfillment of the institute's plan as a whole. In this connection there is a need to grant scientific collectives the appropriate rights in conducting technical policy in the branch.

It is important to set up in every branch information centers that possess recent data on the present technical level of its products. Such centers must send this information to developers for use in their designs and must make out cards on the technical level of products. The conclusions of the centers concerning the correctness with which these cards are made out must be basic and exclusive in evaluating the technical level of products.

A. Chepelev, chief engineer of the production association "Novyy Kramatorsk Machine Building Plant." The rolling, forging-pressing and mining equipment the association manufactures meets the technical requirements of the customer with respect to principal performance indicators. The rolling mills surpass their foreign counterparts with respect to comparable parameters. But it is the quality of the components that causes the customer to complain. For example, the pipe fittings of Minkhimneftemash [Ministry of Chemical and Petroleum Machine Building] - gate valves and regular valves - fall considerably short of foreign counterparts with respect to the level of reliability, external appearance, and weight characteristics. The lack of certain types of components is holding back broad introduction of hydraulic automation equipment and such progressive features as hydraulic pressure

devices on operating stands. In order to meet the requests of customers, the output volume of this equipment ought to be increased 1.5-fold.

There is a great demand both in our country and abroad for power hydraulic presses and other forms of forging and pressing equipment. The needs of customers are not being fully satisfied in quantitative terms. Because of the limited volume of production the association is unable to fill all the orders for this equipment which are coming in from Soviet enterprises and foreign firms.

Consumers would like to see an improvement in certain performance characteristics of mining equipment. Every year we summarize those desires in the association, and the top management regularly monitors their fulfillment.

There are serious shortcomings in evaluating the technical and performance characteristics of products by comparison with their foreign counterparts. In most cases the indicators actually achieved by Soviet equipment are compared to the advertised performance characteristics of the counterpart. An objective evaluation is possible by obtaining the performance figures on equipment operating under comparable conditions. That is why there is good reason to call upon the customer-ministries to acquire single specimens of the best imported models taken as analogs and operate them under the most problematical conditions. For our association there is an interest in comparing the analogs of heavy mills for crushing ore working on the hardest iron ores and of heavy-duty hoisting machines used in underground mines.

Customers submit the most substantial claims against grinding and crushing equipment. The customers insist that the refractory linings of mills should at least be doubled. At present the association does not possess a technical solution for that problem. The consumers also suggest that rubber lining be used instead of steel casting under special conditions related to the grinding of nonferrous metals. But the enterprise does not have the necessary tool making capacities to make the compression molds. In order to improve the quality of all types of industrial rubber products it would be advisable to create specialized production operations at the appropriate plants of Minneftekhimprom [Ministry of Petroleum Refining and Petrochemical Industry] to manufacture and renovate compression molds.

Customers are insisting that mills be fitted out with pneumatic tools: air wrenches, air hammers for driving out bolts, etc. Those products are manufactured by enterprises of USSR Minmontazhspestroy [Ministry of Installation and Special Construction Work] and Minsudprom [Ministry of Shipbuilding Industry] in limited numbers for their own purposes. So far it has not been possible to obtain such tools from them to fit out the mills we manufacture. The problem is waiting to be solved.

In order to speed up the intensification of production there is a need to create a GPS [Main Slurry Pumping Station] as part of the computerized system for technical preparation of production, the ASUTP [computerized process control system] and ASUP [computerized enterprise management system]. The comprehensive program needs to be drafted for conversion of enterprises to operation in the system of flexible computerized production. Within the

comprehensive program decisions can be made every year on computerizing individual narrow operations by creating flexible technological modules. Every year after the technological modules have been put into service, The capacities of the association have to be adjusted for those types of production so as to take into account their possible redistribution within the enterprise for purposes of achieving the ultimate goal -- larger output at lower cost. The elements needed for performing that task are computer equipment, software and personnel.

Plans call for a sharp increase in the output of computer equipment even in the 12th Five-Year Plan. Many of the country's institutes are working on software, and it can be borrowed, but one has to train one's own personnel. Creating a department at the enterprise for training at least 50 engineering and technical personnel a year in second professions has been proposed for this purpose: programming, mathematics and microprocessor electronics.

The existing job slots have to be balanced against the available labor resources. There is a need to eliminate obsolescent and physically worn out equipment and to install highly productive and up-to-date equipment to replace it. This guarantees a rise of labor productivity, a reduction of job slots, an increase in the shift coefficient, a physical shrinking of the number of production workers and consequently of the managerial apparatus as well. It has to be taken into account that the existence of vacancies for which manpower has not been obtained tends to detract from work discipline and production discipline, tends to increase the job turnover of personnel, to lower the shift coefficient, and to bring about departures from the inner relationship between the level of wages and the quality and quantity of work.

Engineering preparation to supply brigades with monitoring and measuring apparatus to monitor the consumption of electric power, gas, steam, air, fuel and other energy carriers will be done in order to raise labor productivity and to use production capacities more intensively. Allowances for consumption of materials at work stations should also be worked out. All of this will make it possible to organize brigades in which there is full cost accounting [khozraschet] and will be the basis for transition to the brigade contract.

In order to machine large-size and heavy parts with the minimum number of setups the effort needs to be pursued more rapidly of creating highly creative new metalcutting multipurpose machine tools equipped with numeric programmed control systems, interchangeable heads, internal monitoring equipment and other equipment for mechanizing auxiliary operations. The need has arisen to organize centralized production of large-size cutting tools and to see that progressive processing equipment is manufactured in quantity so that it can replace the old worn out equipment at a rate of about 6-7% a year.

There is good reason to organize at pipe rolling plants of USSR Minchermet [Ministry of Ferrous Metallurgy] the finishing (cleaning, pickling and corrosion-proofing) of pipe consumed by enterprises of Mintyazhmash [Ministry of Heavy and Transport Machine Building] for the manufacturing of pneumatic and hydraulic systems of rolling, excavator, forging and pressing, and other equipment. This would relieve the enterprises of setting up sections for the

performance of those operations where the productivity would be low and the cost would be high.

Our production association is manufacturing equipment in whose production cycle preparation takes about three years (preparation of engineering and working drawings, technological documentation, scientific research, manufacturing of special equipment, and so on). Aside from the enterprise, there are many design, scientific-research institutes and other organizations of related branches of industry that are involved in the process of preparation. The job orders of sales organizations are the basis for commencement of the work; in this stage there are no other planning documents. As a rule itemized lists for the manufacture of equipment are drawn up by USSR Gosplan in the period when the preparation of production is already nearing completion. Products are included for which job orders have not been issued, and at the same time projects are left out on whose preparation millions of rubles have been spent.

What is more, the lists of equipment issued to the association are not stable. They do not make provision for guaranteed financing; changes may be made in them without clearance with the manufacturing plants.

All of this results in the formation of above-allowance work in process, losses of time in the preparation of production and nonfulfillment of contractual obligations, obsolescence of one-of-a-kind machines even before they are manufactured. The following procedure for planning projects which have a lengthy cycle for the preparation of production and manufacturing of a product is proposed in order to eliminate these shortcomings:

- i. ministries which are consumers of equipment send notices to USSR Gosplan to plan its manufacture in the current five-year period, broken down by years, no later than three years before the beginning of the five-year period being planned;

- ii. USSR Gosplan, which studies these notices, proceeding on the basis of the paramount needs of the national economy and the drafts of the production plan, works out and approves an item-by-item list of equipment for the next five-year period, broken down into years, and sends this to those who are to make the equipment and the customers no later than two years before the beginning of the five-year period being planned;

- iii. USSR Gosplan provides financing on a priority basis to manufacture all the equipment included on the list.

Under the conditions of the economic experiment, in which the association is taking part, fulfillment of the plan for shipment of marketable output by the dates called for in contractual obligations is the principal indicator used in evaluating performance. It fully corresponds to satisfaction of the need for products an enterprise produces. But in our opinion a delivery plan should be assigned to supplement the enterprise's production plan. The delivery plan should differ from the production plan by the amount of the remainder of finished products not shipped. Accordingly it seems advisable to study the question of the possibility of USSR Gosplan and USSR Gossnab making a dis-

tribution for the current year and issuing orders only within the limits of the delivery plan. Job orders for the remaining volume (that is, the remainder of finished products unshipped) could be issued for the first quarter of the year following the year being planned.

In order to give work collectives greater motivation to reduce production cost and raise labor productivity, the present procedure for encouraging counterplans needs to be revised. In 1984 the association overfulfilled counterplans - obligations for the given indicators (above-plan reduction of production cost and the rise of labor productivity were 0.7% and 1.7%, respectively). But it was unable to make additional transfers to the material incentive fund because of the absence of above-plan profit (unless the supplements to the price based on efficiency and the Quality Emblem were included). It would seem that the entire saving or a certain part of it (at least 50%) should be left at the disposition of enterprises regardless of other performance indicators. It would be more correct to completely credit the saving on wages to the material incentive fund regardless of above-plan profit. There should not be a growth of profit unless the questions have been decided of a further rise in labor productivity of a saving on direct inputs, including wages.

It is important to extend to enterprises the right to determine independently the purposes for which they will spend the material incentive fund.

At the present time the activity of enterprises with respect to worker incentives is strictly regulated by the standard regulation, a departure from which is regarded as a financial violation with ensuing consequences. It has obviously become necessary to grant enterprises the right (within the limits of the funds allocated and built up for the bonus system) to determine the procedure for awarding bonuses independently.

Every year the association is assigned centralized targets for reducing the size of the management staff, which is a factor holding us back in organizing and stimulating managerial labor, in the effort to operate with a smaller labor force, in expanding work stations, and in the assumption of extra duties. It would seem advisable to regulate the number of managerial personnel on the basis of development and introduction of standard staff allowances without establishing centralized annual targets for its reduction or to leave at the disposition of the enterprise this saving on the wage fund to stimulate work performed with a smaller labor force. Workers who have nothing to do with managerial activity should be omitted from the category of management personnel: guards, cashiers, cleaning personnel, storeroom clerks, librarians, and so on.

If the performance of enterprises in the area of reducing production costs, including the saving on live labor, is to be guided and monitored, this needs to be done by establishing a maximum level of expenditures and targets for the rise of labor productivity, not by regulating the individual ways in which the targets are fulfilled. When enterprises are assigned a multitude of targets and restrictions, instead of looking for rational solutions, they not uncommonly adapt to those constraints. It would seem to be advisable to include in the term "rationalization proposal" not only measures which are technical in nature, but also organizational measures (improved planning,

organization of production, work procedures and methods, etc.), along with the corresponding reward to the proponent.

S. Vedyushenko, deputy general director for economic matters of the "Podolskshveymash" Production Association. Our production association is the only manufacturer of household sewing machines in the country and is the leader in the manufacture of manufacturing equipment for the garment industry. The products the enterprise manufactures, especially multi-operation household sewing machines of the zigzag type, are in great public demand.

The association is constantly working to improve the designs and performance characteristics of its products, and it regularly replaces the latter with improved models that have higher productivity. Many classes of industrial sewing machines have technical characteristics that meet the level of the best world models or exceed them.

The reconstruction and retooling projects being carried out are making it possible for the association to increase its capacity in the 12th Five-Year Plan to 2 million household sewing machines a year, including 1.2 million zigzag machines, which will guarantee fuller satisfaction of the demand for them by the country's population.

In order to speed up the intensification of production we need to increase the share of capital investments committed to reconstruction and retooling of enterprises.

At the main enterprise of the association - the Podolsk Machine Plant imeni M.I. Kalinin - 35% of the manufacturing equipment, especially metal manufacturing and casting equipment more than 20 years old, is physically old and obsolete. Its replacement is going extremely slowly, which is adversely affecting the level of the output capital ratio, the reduction of the size of the labor force, and the share of manual labor. Expenditures for repairs and losses of work time because machines are down have been sizable.

There have been problems in replacement of orders for up-to-date and highly productive specialized manufacturing equipment. The imported casting equipment has served out its original operating life. The association has been experiencing great difficulties in acquiring spare parts for it.

A radical retooling of production requires that enterprises and associations be given greater rights and opportunities to liquidate old equipment and sell superfluous equipment and other capital assets. It is important for them to be independent in making full use of all earmarked funds and resources built upon the basis of stable rates and an economy regime to retool production, to raise the technical level and improve the quality of the product produced; that they be given the opportunity to make extensive use of credits provided they repay them from their own sources on the pay-as-you-go principle.

It would be wise to make the indicators of operation and economic incentives of scientific-research and project-planning and design organizations more dependent upon the results of application and the economic benefit actually achieved at the customer's enterprises.

A certain time must pass from the performance of measures to apply new technology and to carry out reconstruction and renewal of production technology before they show a full return, but the level of efficiency needs to rise constantly. The main thing is to seek out and activate all untapped potential, to mobilize organizational and technical, economic and social factors, to raise the level of the organization of production, to guarantee conservation of all types of resources, to reduce unproductive expenditures and losses, and to operate at the top level of output. The formation of the development fund and other funds of enterprises and associations must be accompanied by a close relationship between operating results and payment of collective labor.

The system of indicators which are planned are supposed above all to promote successful performance of the most important tasks of the national economy. For that very reason the number of centrally assigned indicators must be sharply reduced so as to free enterprises from excessive meddling and to afford them the opportunity of directing their efforts towards performing those tasks.

These basic principles are made operative through the mechanism of forming and establishing stable economic norms and also increasing the impact of economic levers on the final results of the work of collectives.

Prices are one of the regulators of business relations between the manufacturer and the consumer. The customer is interested in obtaining a high-quality product and a level of performance characteristics at the lowest cost of obtaining it. The product's manufacturer is interested in improving the design and updating the list of products assuming they pay off rapidly and he is reimbursed the expenditures for improving the quality and efficiency. That is why the price level must interact directly with the level of demand for products on the part of consumers, a demand based on their quality, technical level, efficiency and performance characteristics.

The prices of high quality products which are in great demand must be higher and must give manufacturers greater incentive to improve them, constantly renew them, and introduce highly efficient manufacturing processes in producing them. The final result of the impact of the level of prices on inefficient products which are not in demand must be cessation of the product's production.

It is important to intensify the participation of customers in creating new products and putting them into production. At the present time this is mainly limited to agreement on technical assignments, ceiling prices and acceptance of experimental prototypes of new products. The customer has practically no costs in developing or building a product or in putting it into production. It would seem advisable for the manufacturer to be reimbursed for a portion of the additional cost that guarantees introduction of measures to improve the quality and efficiency of the products delivered. The extent of the reimbursement must depend on the economic benefit from the standpoint of the national economy and on the level of performance characteristics of the product being put into production.

The discrepancy between the price level and consumer demand for products is evident in the example of our association. For instance, the prices of straight-stitch household sewing machines in Class 2M have not been revised in more than 20 years. In that time the enterprise has considerably perfected the parts and assemblies of these machines and has adopted measures aimed at improving their quality, reliability and service life. All of this has involved additional outlays for their production, and as a result the products have a low rate of profit, and some of them are produced at a loss. At the same time the demand for them on the part of the customer (USSR Ministry of Trade) is high.

The basic principles for improving the economic mechanism in the context of economic experiment meet the requirements of revamping the planning and management of the national economy. It is indispensable to create an integral system of economic activity and management for all branches of industry on the basis of full interlinkage of plans, the balancing of all types of resources, operation under equal conditions on the principles of cost accounting, and with an equal measure of responsibility for all branches.

If the needs of the public and the national economy for goods and models of products produced are to be satisfied more fully, and if scientific-technical progress is to be speeded up, the activity of associations and industrial enterprises must be evaluated on the basis of sales adjusted for performance of contractual obligations related to product deliveries in accordance with contracts concluded; the rise of labor productivity; the reduction of cost per ruble of marketable output; the fulfillment of assignments for developing new technology and manufacturing processes and putting them into production, applying them and expanding their use; activation of capacities; and fulfillment of plans for reconstruction and retooling.

The indicator of fulfillment of contractual obligations concerning deliveries could be the most important indicator for exerting an impact on the final results of operation. If it is not fulfilled, the responsibility of associations in evaluation of their activities and in determining the final results must be increased. The measure of the responsibility of enterprises and organizations of all branches of industry supplying physical and fuel-and-energy resources and providing rail and highway transportation must be equal.

The standard bonus regulations now in effect by and large guarantee the material incentive of collectives in conserving live labor and physical, fuel-and-energy and other resources. But certain matters pertaining to the procedure and size of formation and use of resources of economic incentive funds for saving on production costs of products need additional work and refinement. For example, in planning the reduction of the production cost and also physical input the targets should specifically distinguish between conservation of the resources of enterprises and associations themselves and those costs which do not depend entirely on them.

Unless these targets are made specific, it is practically impossible to expand cooperation and specialization in certain cases, since it tends to raise production costs, including physical inputs, by virtue of the increased share

of purchased semifinished products. Given the present rates at which transfers to economic incentive funds are increased for a general reduction of production cost, the increased expenditures to obtain purchased semifinished products on the basis of cooperation can make it impossible to achieve an increase of those transfers both in the plan and in actuality.

The present rates of the transfers to material incentive funds of enterprises and associations for reduction of costs per ruble of marketable output are low. The additional funds built up with them do not altogether meet the need for those resources to pay material incentives to workers. For instance, in 1984 the saving on the production cost of marketable output was 657,000 rubles and only 13,000 additional rubles were transferred to the material incentive fund. At the same time the saving on physical inputs was 993,000 rubles, and the enterprise was able (because there was above-plan profit) to transfer 657,000 rubles to the material incentive fund.

An enterprise which has achieved an above-plan saving on physical inputs and a saving against the wage fund is unable to transfer all those funds to add to formation of the material incentive fund when there is an actual deficiency of above-plan profit. Above-plan profit on the balance sheet was not achieved in sufficient volume to create funds for the given saving indicator for other reasons. The workers themselves, even though they fulfilled the savings task and exceeded them, were deprived of the possibility of obtaining bonuses because the enterprise did not have the incentive funds.

The question of setting the maximum level of profitability and of its impact on the level of product prices should be subjected to thorough and profound analysis. A manufacturing enterprise which improves the quality and performance characteristics of its products is striving to fully meet the greater demand of consumers for those products and to realize the higher level of the price. At the same time, by reducing production costs through conservation of labor and physical resources, it is striving to obtain additional above-plan profit, which ultimately comes down to the fact that the actual profitability of products is higher than the standard profitability, so the prices are revised.

It would seem that enterprises and associations which achieve an above-plan saving and above-standard profitability of their products thanks to the introduction of their own measures should be granted broader rights in the production of quality and highly efficient products which are in great demand. Above-plan profits should be left at their disposition to build up additional economic incentive funds for a longer period of time by establishing stable prices and profitability rates that are differentiated so as to take into account the peculiarity of their specific contribution.

Granting associations and enterprises greater rights and independence in selection of the forms and methods of remuneration and incentives to encourage highly productive work will promote the highest production efficiency.

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INDUSTRIAL DEVELOPMENT AND PERFORMANCE

PROFITABILITY FACTOR IN INDUSTRY SURVEYED

Moscow EKONOMICHESKAYA GAZETA in Russian No 49, Dec 85 p 2

[Article under rubric "Economic Survey": "Profitability of Production"]

[Text] Our party's economic strategy is aimed at changing over to an economy with a higher level of organization and effectiveness, in the interests of guaranteeing a qualitatively new level of the national welfare. The implementation of this task requires increasing the importance of the indicators that reflect the effectiveness of the use of the labor, material, and financial resources, and this has been stipulated in the draft version of the Basic Directions in the Economic and Social Development of the USSR in 1986-1990 and for the Period Until the Year 2000.

Among these indicators for the basic production link -- associations and enterprises -- an important role belongs to profit and to profitability. They characterize the final financial results of the cost-accountability activity of economic units. In profit and profitability there is a reflection of the increase in the volumes of output of production, the improvement of its quality, the increase in labor productivity, the reduction of production costs, and the level of use of production assets. In the growth of these indicators one sees the graphic reflection of the results of the intensification of production, and the scope, dynamics, and effectiveness of that process.

Source of Financial Resources

On the basis of the growth of production and the increase of its effectiveness, profit for the national economy as a whole and in its most important branch -- industry -- has been increasing constantly. During 1981-1985 the increase in profit in the national economy will constitute 38 percent, and in industry, 27 percent (1980 = 100).

	<u>National Economy</u>	<u>Industry</u>
1981	103	102.2
1982	108.7	105.5
1983	122.2	112.6
1984	127.7	119.8
1985	138.3	127.2

In 1985 profit as a whole for the national economy will be approximately 170 billion rubles. In 1986, in conformity with the plan, the amount of profit will exceed 188 billion rubles, or will increase by 8.9 percent. The profit of industrial enterprises in 1986 is supposed to reach 113.2 billion rubles, which is 9.8 percent higher than the 1985 level.

The fulfillment of the planned assignments for increase in profit is of decisive importance for the successful fulfillment of the USSR State Budget for 1986, the formation of its income, and the financing of the stipulated planned assignments for the further upsurge of the economy and the raising of the public's material and cultural standard of living.

At the same time, in the national economy practically every third enterprise and organization is currently failing to cope with the planned assignments for profit; in industry, every fifth enterprise; and in construction, every third one.

The State Budget in our country is regularly fulfilled with an increase in income, but the strict observance of financial discipline will make it possible to increase the state's resources considerably. The nonfulfillment of the planned assignments by a considerable number of enterprises is leading to a situation in which the national economy has an underreceipt of profit in the amount of almost 2 billion rubles, and this is substantially reducing the capabilities of the rise in the national income. The greatest number of enterprises that are not fulfilling the planned assignments for profit is in the system of USSR Minlesbumprom [Ministry of the Timber, Pulp and Paper, and Wood Processing Industry] (38 percent of the total number of enterprises in the ministry); USSR Minrybkhov [Ministry of the Fish Industry] (38 percent); USSR Minstroyaterialov [Ministry of the Construction Materials Industry] (28 percent); Minudobreniy [Ministry of Fertilizers] (23 percent); and USSR Minneftekhimprom [Ministry of the Petroleum Refining and Petrochemical Industry] (20 percent).

A sharp turn toward questions of the intensification and effectiveness of production in the branches of the national economy and at enterprises and associations presupposes as the primary step the guaranteeing of the unconditional fulfillment of the planned assignments for profit.

Profit is also a decisive source of formation of funds for providing economic incentives for enterprises and associations.

The draft of the Basic Directions has stipulated the considerable expansion of the economic independence of associations. The resolution of this task and the need for the further improvement of cost-accountability relations also require the increase in attention devoted to the profit indicator.

In 1986, associations and enterprises will have economic-incentive funds in the total amount of 39.5 billion rubles, or an increase of 12.2 percent. At all levels of management it is necessary to guarantee the successive implementation of very important cost-accountability principles and the organic combination of providing incentives for high final results and responsibility for various shortcomings and omissions in work.

The results of the economic experiments in industry and other branches have shown that the new forms and methods of management increase the self-interestedness in the growth and effectiveness of production. Starting in 1986, the new working conditions will go into effect at the ministries and departments whose share is more than half of industrial production, at a considerable number of enterprises in transport, and at all enterprises of communication and personal services. The task lies in assuring the complete use of the capabilities of the new management methods for mobilizing the reserves within each management, for building up production on the basis of the intensive growth factors, and the achievement of high final results.

Reserves for Increase of Profit

The existing considerable reserves for the increase in the effectiveness of industry are attested to by the differences in the level of profitability for individual enterprises. For example, many types of output in the construction-materials industry are produced by enterprises in various ministries and the profitability of individual articles differs considerably. The profitability of reinforced-concrete articles, for example, varies from 17.9 for USSR Ministry of Materials to 8.6 for USSR Ministry [Ministry of Construction]. Substantial differences are also observed in the profitability of the production of one and the same kind of output within the confines of ministries.

A by no means insignificant reserve for the increase of profit is the reduction of the unrealized material and financial losses. Industrial enterprises annually pay out, solely for penalties, fines, and forfeits for undershipment of output and for failure to observe the shipment terms, more than 4 billion rubles (of which approximately half is for underfulfillment of the plan for shipments of output).

The largest amounts of penalties, fines, and forfeits in the first half of 1985 were paid by industrial enterprises of USSR Minlegprom [Ministry of Light Industry] (333 million rubles); USSR Minchermet [Ministry of Ferrous Metallurgy] (212); USSR Minlesbumprom (152); Minkhimprom [Ministry of the Chemical Industry] (115); Minudobreniy (91); USSR Minugleprom [Ministry of the Coal Industry] (78); USSR Minneftekhimprom (76); and Minavtoprom [Ministry of the Automotive Industry] (50 million rubles). The reinforcement of contract and planning discipline for these ministries is of primary importance.

A major reserve for the increase of profit in industry is the elimination of the rate of financial losses and the low profitability of production. Here

much depends upon the active position taken by the ministry in questions of improving the specialization of the enterprises and the placement of the production of individual types of output. A decisive word must also be said by the workers themselves at the enterprises and associations. It is important, as is stipulated by the draft of the Basic Directions, to speed up the renovation of the production apparatus, first of all by means of the more rapid replacement of relatively ineffective equipment by progressive, more productive technical re-equipping and the remodeling of production.

In industry, many enterprises that are supposed to operate at a planned profit are having financial losses. With a consideration of the objective production conditions, the 1984 plan stipulated losses of almost 11 percent at all enterprises, but actually 13 percent of the enterprises worked with a loss, or 3,900 enterprises. The largest number of enterprises actually operating at a loss occurs in USSR Minugleprom (43 percent); USSR Minlesbumprom (25 percent); Minudobreniy (25 percent); USSR Mintsvetmet [Ministry of Nonferrous Metallurgy] (17 percent); and Minnefteprom [Ministry of the Coal Industry] (14 percent).

Operating at a loss is caused first of all by the production of output that incurs a loss, when the proceeds from its sale do not cover the expenditures made by the enterprises. For industry as a whole, the financial losses from the production of this kind of output constitute 8.8 billion rubles, or 14 percent of its production costs.

In order to eliminate or assure the maximum reduction of production output that incurs a loss, in the branches of industry it is necessary to develop special measures and to achieve a fundamental turning point in this respect as early as the first year of the new five-year plan.

Reliance Upon the Intensive Factors

Under conditions of the intensification of production, it is important to guarantee the increase of profit and profitability, primarily by means of the use of the intensive growth factors. As a result, it is necessary to increase the share of profit obtained by means of the reduction of the production costs of the output, the increase of labor productivity, and the use of scientific-technical achievements. A factor that is currently taking on decisive importance is the introduction of highly effective, resource-saving technology and technological schemes, which leads to an increase in labor productivity and to a reduction of expenditures for the production of output.

The importance of this factor of the growth of profit under the conditions of the broad changeover to completely mechanized and automated production entities is increasing. At the same time, there has also been an increase in the demands on the effectiveness of the technical innovations being introduced. In the past decade the indicator of the increase of profit in terms of a single ruble of expenditures for the introduction of new technology remained practically unchanged, remaining at the level of 0.34 rubles. In 1984 that indicator rose somewhat, coming to 0.38 rubles. It is necessary to

achieve its successive growth at high rates on the basis of the technical re-equipping of production.

During the elapsed four years of the five-year plan, a third of the increase in profit was achieved by means of the reduction of the production costs of output. This is more than in the 10th Five-Year Plan, when, on the average for the year, this share constituted 23 percent.

In 1986 it is planned to reduce the production costs of industrial output by 0.9 percent and thus to obtain approximately 60 percent of the increase in profit, or more than 5 billion rubles.

A movement that is gaining scope in our country -- the movement for the above-plan reduction of production costs and for the economizing of material resources -- helped to locate and to activate many reserves for the economizing of expenditures. In 1984, by means of the above-plan reduction of production costs in our country's industry, a total saving of approximately 2 billion rubles was achieved. At the same time, in a number of branches in 1984 the expenditures per ruble of commercial output as compared with the previous years increased. They include the fuel industry, ferrous metallurgy, the timber industry, cement industry, light industry, and the food industry. This was a substantial reason why in 1984, as compared with 1983, the level of profitability in those branches dropped.

The improvement of the quality of output, the renovation and expansion of the variety of the articles being produced, are also becoming, under the conditions of intensification, important factors for the increase of profit. Yet, one still observes large losses from the production of inferior output.

Low quality and defective output are the squandering of the nation's material resources and labor, according to the statement in the draft of the new edition of the CPSU Program. It is from those well-principled positions that we must resolve the questions of the fight against those negative phenomena.

The course aimed at the intensification of production and at the improvement of the use of all types of resources requires the strictest observance of economy measures in all links of the national economy -- from the ministry down to the production brigade. The intensification of the work involving economy measures and thriftiness must go hand in hand with the intensification of the struggle against losses, poor management practices, and extravagance. Accounting and control, and the improvement of cost-accountability relations, must become an insurmountable barrier on the path of those negative phenomena. Normative methods of the distribution of profit deserve more energetic introduction.

The most rapid use of all the capabilities for increasing the effectiveness of production in every link of the national economy and for increasing the contribution made by every production collective to the growth of our country's national income represent a very important direction in the work of implementing our country's economic strategy.

"Facts and Figures"

Profit plays a substantial role in the formation of the monetary accumulations of the national economy. In 1984 the total monetary accumulations (other than those of kolkhozes) constituted 287.7 billion rubles, including profit, 159.4 billion rubles. A considerable part of it occurs at state enterprises and organizations of industry -- 96.3 billion rubles.

In 1984 the profitability of industrial enterprises (the relationship of profit to the value of the fixed production assets and material working capital) constituted 12.1 percent.

The enterprise wholesale prices that were introduced as of 1 January 1982 make it possible for practically all branches of industry to work profitably, to compensate their expenditures for the production of output, and to obtain profit in the amounts necessary to make payments into the budget, to form the economic-incentive funds, and to compensate for other expenditures from the profit.

An industry that is remaining an unprofitable one as a whole is the coal industry. For purposes of compensating the planned expenditures for the mining and concentration of coal and obtaining the necessary profit, new computed prices for coal and products of coal concentration will go into effect on 1 January 1986 for making settlements with coal-mining and concentration enterprises, while retaining the existing wholesale prices for consumers.

The production of progressive, highly effective articles intended for technical and production purposes is encouraged by the establishment of incentive markups to the wholesale prices. Rebates are established, to be applied to the wholesale prices of obsolete output. The dynamics of the funds obtained by means of the establishment of markups and rebates on wholesale prices in industry attest to the improvement of the structure of the output being produced (million rubles):

	Markups	Rebates
	<hr/>	<hr/>
1980	480.6	4.6
1984	965.9	26.9
1985 (first half)	578.9	12.1

The role of markups and rebates in providing economic incentives for the production of highly effective output is intensified in conformity with the adopted decisions dealing with the development of the new management methods.

An important financial task is the acceleration of the turnover rate of working capital, the reduction of above-norm reserves of material and commodity assets. In Minkhimash [Ministry of the Chemical Industry] and Minzhvmash [Ministry of Machine Building for Animal Husbandry and Fodder

Production], for example, the reserves of material and commodity assets at enterprises are almost 45 percent above the norm.

The budget for 1986 stipulates an assignment of speeding up the turnover rate of working capital in a total amount of 2 billion rubles.

In 1986 the profit of trade organizations is supposed to constitute 10.6 billion rubles. The new procedure to be introduced next year to provide economic incentives for the workers in trade will make it possible to intensify their material self-interestedness in fulfilling the commodity-turnover plan.

It is planned to reduce by 0.5 percent the production costs of construction-and-installation operations in 1986. The profit of construction organizations is planned in the amount of 11.6 billion rubles, or an increase of 15.3 percent. The profitability of construction production on the average will be 13 percent.

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REGIONAL DEVELOPMENT

GOSPLAN INSTRUCTIONS FOR REGIONAL DEVELOPMENT

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 10, Oct 85 pp 119-125

[Article: "At USSR Gosplan"]

[Text] USSR Gosplan approved the Methodological Instructions on the compilation, elaboration procedure, coordination, approval and ammendment of schemes for the development and location of sectors in the national economy and in industry and schemes for the development and location of productive forces by economic region and union republic.

The Methodological Instructions are published below:

I. BASIC POINTS

1. The general scheme for development and location of productive forces in the USSR (General Scheme), the schemes for the development and location of sectors in the national economy and industry (sector schemes) and schemes for the development and location of productive forces by economic regions and union republics (territorial schemes) are a system of preplan scientific research on factors of economic growth, directions and rates of economic and social development in a unified national economic complex on a sectoral and territorial basis. The schemes are long term and problem-objective oriented. Their practical direction involves the substantiation of social demand, resources, paths for intensifying production, the scales, pace and proportions of development and location.

2. The elaboration of schemes is based upon party and government program and directive documents on solutions to economic and social tasks over the long term perspective, a comprehensive 20 year program for scientific-technical progress and scientific forecasts, concepts in the development and location of productive forces for a calculated period prepared by the Council for the Study of Productive forces (SOPS) and the Scientific Research and Economics Institute at USSR Gosplan (NIEI).

3. The schemes are used to prepare draft plans for the basic directions of economic growth and social development of the USSR, comprehensive objective

programs, lists of newly initiated projects and design drafts being worked out in the five-year plans.

The schemes also serve as the initial base for the techno-economic substantiation (TCO) for the construction of enterprises and installations, the location of settlements, regional planning, general plans, groups of industrial enterprises with general projects and other pre-design documentation.

4. The general scientific-methodological leadership over the elaboration of these schemes is entrusted to the SOPS at USSR Gosplan, with the participation of the NIEI, the All-Union Scientific Research Institute for Comprehensive Fuel and Energy Problems (VNIKTEP), the Institute for Comprehensive Transportation Problems (IKTP) at USSR Gosplan, and the Scientific Research Institute for Construction Economics at USSR Gosstroy.

5. SOPS and NIEI at USSR Gosplan work out concepts for the development and location of productive forces in the USSR, based upon drafts of the basic directions in the social and economic development of the USSR, presented in directive organs, the General schemes for the development of productive forces in the USSR previously worked out and approved by USSR Gosplan, and calculations of long term physical-value intersectoral balances. These are sent to USSR ministries and departments and the Councils of Ministers of union republics for use in working out sector and territorial schemes.

6. The schemes are worked out for at least a 15 year period (by five-year plan, with more detailed substantiation for the first five-year plan), by product assortment and region, for the basic directions in the social and economic development of the USSR, with mutual linkages. With this goal in mind, sector schemes are presented for examination by union republic Councils of Ministers and SOPS, while the territorial schemes are presented to the SOPS at USSR Gosplan.

Materials in the schemes presented to union republic Councils of Ministers should contain indicators and substantiation of economic and social development of sectors in the base and long term periods for the appropriate territories and an appendix listed in Paragraph 16 of these Instructions (in addition to results of optimizing calculations).

The complete sector and territorial schemes are given to USSR Gosplan and SOPS at USSR Gosplan.

7. The sample structure of schemes, base indicators and methods for calculating and substantiating them as presented by USSR Gosplan in the present Methodological Instructions, are standard. In accordance with them, USSR departments and union republic Councils of Ministers approve the methodology for working out specific sector and territorial schemes (partial methodology)², taking into consideration the specifics of sectors and regions.

the development of sectoral and territorial schemes use is made of forms worked out by SOPS at USSR Gosplan and for the General Scheme, forms recommended by partial methodologies.

The standard methodological instructions and the partial methodology are subject to periodic amendments, based upon the results of schemes development for the next accounting period.

8. USSR Gosplan is the client for the General Scheme. It is worked out by SOPS at USSR Gosplan, with the participation of co-executor institutes for the coordination plan approved by USSR Gosplan .

The development of the General Scheme takes into account the sectoral and territorial schemes in order to substantiate the directions and pace of economic and social development of the unified national economic complex and to improve its intersectoral and interregional proportions.

9. The sectoral schemes worked out by USSR ministries and departments are the prototypes for the development of the corresponding sectors of the national economy or industry.³ Ministries and departments in charge of the enterprises producing the products involved or substitutes for them and customer ministries all participate in this work. The elaboration of these schemes gives consideration to the conclusions of the union republic Councils of Ministers on production volumes and location and its linkage to regional demand and possible supply of resources of a multipurpose nature (labor, fuel and energy, water, land, forests, construction-installation organization capacity and their material-technical base), and also with tasks in the specialization and comprehensive development of republic and regional economies.

10. The summary schemes for the development and location of construction-installation organizations and their material-technical bases, and the "Transport" and "Science and Scientific Services" schemes for development and location of national economic sectors are worked out for comprehensive linkage of analogous schemes at the subsector level and as a basis for the sections of the General Scheme. This is done by: NIIES USSR Gosstroy (the methodology and program approved by USSR Gosstroy upon agreement of USSR Gosplan) IKTP at USSR Gosplan (the methodology and program approved by USSR Gosplan), the Scientific Research Institute at the GKNT (State Committee for Science and Technology) and the USSR Academy of Sciences (the methodology and program approved by the GKNT upon agreement with USSR Gosplan).

If necessary, construction, transport and other USSR ministries and departments will, upon agreement with their head organizations, approve partial methodologies for the elaboration of their schemes, based upon the sector methodologies of these organizations.

The schemes for the development and location of agriculture, forest and water resources⁵, geology and geological exploration are worked out by: USSR Ministry of Agriculture, USSR State Committee for Forestry, the USSR Ministry

of Land Reclamation and Water Resources and the USSR Ministry of Geology using methodologies and programs approved or agreed upon with USSR Gosplan .

11. Territorial schemes are worked out by the union republic Councils Ministers, taking into account sectoral schemes presented and approved by USSR ministries and departments, for the national economy as a whole and delineating the subordinate union republic Councils of Ministers.

The schemes for the development and location of productive forces in the Central Asian, Transcaucasus and Baltic economic regions are worked out by SOPS at USSR Gosplan and are within the General Scheme.

12. The clients for the schemes (USSR ministries and departments and union republic Councils of Ministers) determine the main developer from their subordinate sectoral and territorial schemes scientific and design organizations and approve their schemes targets.

The targets for schemes elaboration should include: indicators for the development and location of sectors, productive forces of union republics and economic regions, the appropriate drafts of the basic directions in the Social and Economic Development of the USSR for the next five-year plan and the long term presented to directive organs, and concepts for the development and location of productive forces in the USSR; recommendations for social measures and alternative development and location of production, directions for technological policy and a list of questions which should be given special attention in the schemes.

13. Upon agreement with clients, the main developers of schemes determine the co-executor organizations, and, upon agreement with SOSP USSR Gosplan, compile a program and coordinated plan for schemes elaboration and exercise direct organizational and methodological leadership over the co-executors' activities and compile drafts of the overall scheme.

14. Work on schemes begins in the last year of the current five-year plan and is conducted according to procedures and deadlines set by USSR Gosplan in accordance with the present methodological instructions. It is completed when the schemes is approved by the client and agreed to by USSR Gosplan, not later than one year prior to the presentation, to the USSR Council of Ministers, of the basic directions in the social and economic development of the USSR for the long term (2.5 years prior to the next five-year plan).

Based upon the drafts of the basic directions in the social and economic development of the USSR for the long term and the next five-year plan, (control figures) the necessary changes are made in the schemes and the prospects for the development and location of productive forces for the new five-year plan are elaborated.

15. Work on schemes compilation is financed in accordance with scientific research plans for the natural and social sciences (the most important economic problems), approved by the USSR Academy of Sciences, the GKNT and USSR Gosplan, and plans for research and design work financed by the state

budget, and approved by USSR ministries and union republic Councils of Ministers upon agreement with USSR Gosplan.

II. SCHEMES FOR THE DEVELOPMENT AND LOCATION OF SECTORS OF THE NATIONAL ECONOMY AND INDUSTRY

1b. In sectors with complex production structures the schemes are elaborated in a manner appropriate to the existing management system. For example, in industrial sectors the schemes are elaborated for subsector (production operation), subdepartmental all-union association --VPO. If there are several schemes for subsectors (production operations) the main USSR ministry (department) also works out a brief (single volume) summary scheme for the entire sector which includes general indicators for development and location of production, demand for material, labor and financial resources in the schemes for subsectors (production operations).

The schemes for individual subsectors (production operations) should have the following structure:

Volume I -- "Analysis of the development and location of subsector (production operation) for the base period."

Volume II -- "Substantiation of the development and location of subsector (production operation) in the long term period."

Materials on questions of scientific-technical progress, labor resources and environmental protection are in the appropriate sections of volumes I and II. If there is not much material it can be combined together. The following appendices are to supplement the main volumes of the schemes:

The descriptions of the operating associations and enterprises in the base and long term periods, including the operational introduction of productive capacity by types of product;

The results of optimization calculations for the development and location of subsector (production operation);

Territorial balances for the production and distribution of output in accordance with the Methodological Instructions for territorial balances for the production and distribution of the most important types of products, approved by the USSR Gosplan and USSR Gosstat Decree of 5 October 1982 No. 221/82);

A list of industrial projects (Form 14 pkv PL), a summary table of additional demands for multipurpose resources;

Balances of jobs and workers (in accordance with the methodological instructions for planning the reproduction of jobs in the national economy, approved by USSR Gosstat);

A section of questions of the subsector's stable functioning (in accordance

with the methodological instructions approved by USSR Gosplan);

"Science and Scientific Services" (in accordance with the Methodological Instructions for the elaboration of summary schemes for development and location of national economic sectors "Science and Scientific Services", GKNT, 1985);

Charts, schemes, diagrams and other display materials.

AN ANALYSIS OF THE DEVELOPMENT AND LOCATION OF SUBSECTOR (PRODUCTION OPERATION) FOR THE BASE PERIOD

17. The analysis is made for the period preceding the accounting period (base). This should be at least 15 years and cover the past, current and next five-year plans. The indicators for the final year of the current five-year plan are taken from the annual plan with subsequent correction for actual fulfillment.

The analysis is made on the basis of statistical data, plan and draft materials and results of scientific research. Attention should be directed to discovering the patterns and tendencies in the development and location of production, disproportions and bottlenecks, production reserves, sources and factors for improvements in the technical levels and economic efficiency of production.

18. Dynamics in the development of subsector (production operation) are described territorially by final year of the five-year plan and with regard to the following circle of basic indicators⁷:

Output in physical and value terms (commercial, normative-net product), including mass consumption goods;

The number of workers, including PPP [not further identified];

Capital investments (including construction-installation work), with separate outlays for reconstruction, technical reequipment, the expansion of existing enterprises and new construction;

The value of fixed capital (with productive capital separate);

The operational introduction and withdrawal of production capacity;

The volumes of uncompleted construction and the value of non-standard equipment, including imported equipment, and, finally, major repairs.

In general, the following changes are made for subsector (production operation) and for individual enterprises: energy, material and labor intensiveness of output; its prime cost, unit capital investments, the profitability of production and fixed capital, output capital ratio, pay off period of capital investments, labor productivity, the machinery and energy to labor ratios, degree of manual labor used; production's environmental effects,

the efficiency of environmental protection measures and other techno-economic indicators influencing production.

19. The contemporary state of the subsector (production operation) is analyzed by plan indicators for the final year of the base period with regard to the following set of questions:

The degree to which the economy's and public's demand for output (services) is met; per capita production in the USSR and developed countries, the ratio of production levels to approved comprehensive objective programs (Energy, Food Programs, etc);

The technical level of production development (type structure of equipment specifications, operating times and other characteristics, new types of products, their comparison to better world models; introduction of basic scientific and technical achievements, their influence upon production development and location, environmental protection and rational use of natural resources);

Age structure of fixed productive capital and its active component;

Availability and use of operating productive capacity;

Availability and filling of jobs (balance of jobs and workers in accordance with methodological instructions for the planning of job reproduction in the national economy, approved by USSR Gosplan;

Territorial availability of fuel-energy, mineral, raw material, agricultural, water, forest and other resources and their influence upon production development and location;

Level of production concentration, specialization, cooperation and joint operations (grouping of production associations, enterprises and organizations by output volume, cost of fixed productive capital, number of production personnel, ratio of actual production capacity at an enterprise to optimal capacity, intrasectoral, intersectoral and interoperation cooperative ties, production of output at enterprises in other ministries and departments;

Improvements in management and territorial organization of production (development of various types of associations, number of enterprises in association, share of output produces by association as percentage of total commercial output, location of main enterprises and affiliated enterprises;

Participation in the formation and development of TPK [Territorial production complexes], zones and regions included in the General Scheme.

Availability of production capacity for the preparation and processing of secondary resources (production and consumption wastes and by-products) formed in the subsector or processed at its enterprises;

Requirements for transportation and degree of their satisfaction by transportation services (for subsector, economic region and type of transport);

Intra- and interregional transport-economic ties with suppliers of fuel, raw and other materials, semifabricated goods, accessories and with consumers of finished products, separating out irrational ties;

Participation in the international socialist division of labor within the framework of CEMA and foreign economic ties with other countries (export and import).

SUBSTANTIATION OF THE DEVELOPMENT AND LOCATION OF SUBSECTOR (PRODUCTION OPERATION) OVER THE LONG TERM PERIOD

20. The national economy's and the public's demand for the output of the subsector (production operation) for the country as a whole includes:

For the final years of the first and second five-year plan in the long term period, its production volumes in the basic directions in the social and economic development of the USSR, presented in directive organs (after its approval the volumes in the schemes are corrected);

For the final year of the long term period -- production volumes determined in the concepts for the development and location of productive forces prepared by SOPS and NIEI at USSR Gosplan.

The demand for output, on a national or territorial level, not determined directly in these documents, is assumed by main developers using data from USSR ministries and departments on the development of the sectors of industry consuming this output, taking into account progressive norms and normative requirements.

The calculation of demand should take into account the possibility of saving output through improvements in production technology, expanded assortment and improved quality and the potentials for subsector (production operation) participation in the international division of labor. The appropriate proposals should be based upon existing methodology for determining the efficiency of new technology, capital investments and foreign economic ties.

21. The distribution of demand for output by union republic and economic region is made in accordance with long term territorial balances for the production and distribution of output, developed in approved schemes and corrected in accordance with basic directions in the social and economic development of the USSR, in directive organs.

22. The directions for technological policy for an subsector (production operation) are elaborated on the basis of the comprehensive 20 year program for scientific-technical progress. This makes provisions for further intensification of production processes, the economical and comprehensive use of natural resources, raw materials, and fuel, the expanded use and

comprehensive processing of low grade resources and industrial wastes, the introduction of waste free technology preventing environmental pollution .

The influence of scientific and technical progress upon production development and location is researched, production volumes making use of new equipment and technology are found, changes in indicators of energy, material and capital intensity, labor productivity and machinery and energy ratios, production costs and quality are all determined, the correspondence of the direction and pace of scientific progress to the tasks in production development in regions of specialization and new introduction and extreme natural conditions is reviewed; and the influence of scientific-technical progress upon the types and optimal sizes of production associations enterprises and organizations is established.

23. Requirements for production resources are based upon the intended production volumes on a territorial perspective, using progressive, regionally differentiated norms and consumption norms for these resources.

The demand for labor resources is determined on the basis of the intended growth in labor productivity and other indicators for subsector (production operation) long term development, taking into account the supply for basic production and infrastructure. This includes the need for improved use of labor resources and their balance in industrial regions and the availability of labor power at operating enterprises.

Supplies of raw materials (volumes and quality) are based upon balance and expected reserves. Techno-economic calculations are made on the advisability of utilizing new deposits, stopping the exploitation of deposits, developing existing deposits under changing conditions of extraction, processing and comprehensively using raw materials, and effectively using substitute raw materials.

The supply of multipurpose resources (labor, fuel-energy, land, forest and water) is preliminarily determined by balances for these types of resources workout for territories by USSR ministries and departments.

Indicators for the supply of multipurpose resources, including the capacity of construction-installation organizations and their material-technical bases are adjusted after examination of sectoral schemes drafts by union republic Councils of Ministers, and conclusions about these schemes have been received from them.

24. Requirements for growth in production capacity and fixed capital at a subsector (production operation) are established by balance calculations, based upon the assumed (calculated) national economic and public demand for output, following the Methodological Instructions for the development of state plans for the economic and social development of the USSR.

25. In the concepts for the long term development and location of subsector (production operation) are formulated the most important directions in the long term development and location of production, problems in attaining the intended production levels, alternatives among them: new construction, reconstruction and technical reequipment of operating enterprises, savings in resources and increases in their production; the thorough restructuring of production and expansions in output assortment.

26. In accordance with the concepts approved, alternatives for the development and location of subsector (production operation) capacity are elaborated which should reflect ways and means of attaining the goals proposed (different production technologies, types of raw material, orientation towards raw material base, production region and transport-economic ties).

The alternatives for the development and location of subsector (production operation) production capacity should cover all enterprises.

The preparation of these alternatives must be based upon the most complete use of available production capacity, and upon the development of operating enterprises through their technical reequipment and reconstruction to improve and development sectoral, intracomplex and plant specialization and cooperation in basic and auxiliary production .

Locations are determined for the planned growth in production. The subsequent optimization of production capacity development and location for each of the points requires varying production volumes and technology at existing and planned enterprises, having the necessary conditions. It is recommended that the total maximum production volume for all projects examined is considerably greater than the planned or calculated requirements of the national economy for the sectors' output.

Production volumes and technology, lump-sum and current outlays are determined for all alternatives in the calculations. Components of lump-sum and current costs are calculated in accordance with the methodology for determining the economic effectiveness of locating industrial enterprises, worked out by SOPS at USSR Gosplan and approved by USSR Gosplan in 1980.

27. After the elaboration of alternatives for the development and location of production, their economic effectiveness is evaluated by mathematical-economic methods and computers in accordance with the Methodological Instructions for working out state plans for the economic and social development of the USSR. It is obligatory to make optimization calculations for the development and location of production for the most important types of products made using the General Scheme and territorial balances, subject to approval by USSR Gosplan and USSR Gossnab.

Alternatives for subsector (production operation) development and location are evaluated for calculated cost [privedennyi zatrat] indicators, including outlays in adjacent sectors and for the transportation of finished products to customers. The comparison of these indicators for alternatives makes it possible to select the alternative with minimum calculated costs. As a rule, this alternative for subsector (production operation) development and location is recommended as the optimal one.

28. If their indicators are identical or similar, the selection of the optimal (or close to optimal) alternative for subsector (production operation) development and location is made with the help of additional analysis of their absolute effectiveness, capital intensiveness and the degree to which a alternative meets the requirements of national economic development (effective

use of labor, fuel-energy and other productive resources; reductions in transportation outlays, the specialization and comprehensive development of union republic economies, economic regions and territorial production complexes, environmental conditions, improvements in construction conditions.)

Based upon the optimal alternative, territorial balances for the production and distribution of output are worked out, subsector (production operation) additional demand for multipurpose resources (labor, fuel-energy, water, capital investments, construction-installation work) are calculated, transportation-economic ties and the average distance of finished product hauls are analyzed, the comparative efficiency and sequence of enterprise construction determined, and groups of industries, the construction of which is advisable for all alternatives examined, are found, and requirements for the development and location of adjacent sectors and problems requiring further elaboration are formulated.

GOSPLAN INSTRUCTIONS

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 11, Nov 85 pp 121-127

[Article: "At USSR Gosplan"]

[Text] USSR Gosplan approved the Methodological Instructions on the compilation, elaboration, coordination, approval and amendment of schemes for the development and location of sectors of the national economy and industry and for the development and location of productive forces by economic region and union republic.*

III. SCHEMES FOR THE DEVELOPMENT AND LOCATION OF PRODUCTIVE FORCES BY ECONOMIC REGION AND UNION REPUBLIC

29. Territorial schemes should have the following structure

Volume I "Analysis of the development and location of productive forces in the Base Period";

Volume II "Substantiation of development and location over the long term".

Materials on questions of scientific-technical progress, labor resources and environmental protection are put in the appropriate sections of I and II. If there are small amounts of materials they can be combined. In addition to the main volumes, the following appendices are to be written:

Tables on the results of calculations made in substantiating the indicators for scheme sections;

Lists and basic techno-economic indicators of the most important top priority and newly started construction sites for industrial projects;

The schemes for the formation and development of TPK in other regions are distinguished in accordance with the Methodological Instructions for the elaboration of the General Scheme;

Territorial balances of multipurpose resources (labor, fuel-energy, water, forest, land, the capacity of construction-installation organizations and their material-technical base);

Territorial material balances for the production of foodstuffs, mass consumption goods, local types of boiler-furnace fuels, construction materials, etc (assortments set by union republic Gosplans);

Balances of jobs and workers (in accordance with methodological instructions for planning job reproduction in the national economy, approved by USSR Gosplan);

A section on questions of the stable functioning of union republic economies (in accordance with methodological instructions approved by USSR Gosplan);

"Science and Scientific Services" (in accordance with Methodological Instructions for the development of summary schemes for the development and location of national economy sectors "Science and Scientific Services" GNKT, 1985);

Charts, diagrams and other display materials.

The Analysis of development and location of productive forces for the Base Period

30. The level of economic and social development is described by the base period dynamics of the indicators for production volumes and growth rates, its sectoral structure and location, specialization, production-consumption ratios of the basic types of output⁸, and the population's living standards. In the final year of the base period a study is made of the appropriateness of the planned and attained level of productive forces development and location to the economic and natural conditions and resources, and to a rational territorial division of labor.

Analyses are made of capital-labor ratios, output-capital ratios and labor productivity in national economic and industry sectors, calculated for commercial or net product (normative), in comparable prices, taking into consideration structural changes, the physical indicators for the production of the main types of output, capital investments, the ratio of wage increases to labor productivity, the efficiency of capital investments and material outlays, profitability, reductions in manual labor, interrayon and intrarayan ties of republic (rayon) infrastructure.

The position of the republic (rayon) in the unified national economic complex is examined. When this is done, it is necessary to discover tendencies in changes of proportions between production and service sectors and changes in the ratio of local production and consumption.

Living standards are described by growth in per capita real incomes (including social consumption funds), structural changes in actual consumption of food and nonfood goods, the availability of housing space, cultural and personal services, health care, education, preschool institutions, and other economic and social factors.

Analyses are made of demographic, professional skill and social structure, population mobility, occupational level and structure, the supply of labor resources, the development of systems for training and retraining.

There are also analyses of intrarepublic (intrarayon) location of productive forces, the territorial structure of production operations and organizations, settlement patterns, the formation and development of TPK, zones and regions included in the General Scheme .

This reveals disproportions and shortcomings in the development and location of productive forces, reserves and potentials for further growth in production volume.

AN EVALUATION OF NATURAL AND SOCIO-ECONOMIC PREREQUISITES FOR THE DEVELOPMENT AND LOCATION OF PRODUCTIVE FORCES

31. A classification and qualitative evaluation of land resources is made for the main land users and types of land, in accordance with the structure of the unified state land fund. The areas for possible withdrawal of land for nonagricultural uses are found and the areas occupied by forests, crops, pasture and meadows set aside. Taking into account natural conditions, technical potentials and economic advisability, the areas for potential agricultural development are determined (the possibilities of using brush lands, swamps and land recultivation). Based upon balance calculations for the transformation of land, a determination is made of the long term land use structure for the republic (region), oblast, kray and autonomous republic.

32. Water resources are evaluated from data in the State Water Survey. Various levels of river runoff and groundwater supplies are distinguished. Taking into account intended water resources measures for the regulation and territorial diversion of river water, increases in groundwater reserves and other measures to increase water availability, total disposable water resources are determined. They are economically evaluated with regard to total calculated unit costs per 1 cubic meter of water resources. The potentials for water resource use take into account their qualitative condition and users' requirements. Water resources supplies for the development and location of productive forces in union republics, economic regions, TPK and other regions are verified by the appropriate territorial balances, taking into account growth in water demand in sectoral schemes and environmental protection constraints upon the interrepublic (interregional) transfer of water between river basins established in the schemes for the comprehensive use and protection of the USSR's water resources.

Based upon territorial water resource balances, proposals are prepared for USSR ministries and departments to correct sectoral schemes involving the location and construction times of water consuming enterprises.

33. The evaluation of prospective forest resources includes changes in forest area as a result of economic development and forest industry operations. This is based upon the distribution of forest resources by category of protection. Based upon conditions for the rational conduct of forest operations, cutting volumes are established and techno-economic indicators are calculated which describe the economic efficiency of the prospective use of forest resources, improvements in their protection and logging operation location.

Forest restoration work, the planting of green zones, parks, nurseries and plantations are substantiated.

34. Mineral, raw material and fuel resources are evaluated according to balance reserve data, including balance [zabalansoviy] predicted reserves. There is to be an economic geological evaluation of the main fuel and mineral deposits, their location, the degree of development and exploitation conditions. Techno-economic indicators for the comprehensive extraction and processing of raw materials and the use of mining wastes are to be drawn up. Fuel-energy and hydropower resources in the republic (rayon) should be examined separately.

35. The suggested number of workers is calculated for union republic, economic region, kray, oblast and autonomous republic and their administrative centers on the basis of demographic forecasts of the USSR TsSU [Central Statistical Administration] and the union republic TsSU's. If no such data are available, such calculations are based upon long term tendencies in population migration.

ENVIRONMENTAL PROTECTION AND THE RATIONAL USE OF NATURAL RESOURCES

36. The analysis of environmental conditions in the union republics (rayons) should include an evaluation of the environment as a factor in living standards and the condition of especially protected territories. The evaluation is made for the basic types of natural resources (land, water, forests, minerals).

The population's living standards are characterized by environmental conditions in large cities (air, intercity reservoirs, general sanitary state of populated areas, greenery in intracity and suburban areas, industrial sanitary protection zones).

The conditions at especially protected territories (reserves, national parks, protected areas, etc) are included in materials on comprehensive territorial schemes for the protection of nature and data from the appropriate sectoral and territorial organs in which these areas are located.

The effect of economic activities upon the environment as a whole and individual natural resources is evaluated from materials from sectoral

schemes, specifying enterprises subordinate to union republic Councils of Ministers

37. Taking into account the environmental effects of economic activities, environmental protection measures are worked out to meet norm requirements for environmental conditions and natural resource use (maximum permissible concentration of harmful substances in the air, water and soil, forest stand norms, degree of tillage, and others). These specify the top priority measures and the ministries and departments responsible for their implementation. On the basis of these materials corrections are made in those parts of the environmental protection measures in sectoral schemes which are involved with improvements in the use of natural features and the creation of new capacity.

Capital investments in environmental protection measures also are fully defined for top priority measures on a territorial basis, allocating means for the implementation of intersectoral measures.

38. In preparing this section, consideration should be given to the decisions of directive and local organs concerning environmental protection and the use of natural resources, the recommendations of environmental protection USSR ministries and departments (Goskomgidromet [State Committee for Hydrometeorology and Environmental Control], USSR Ministry of Land Reclamation and Water Resources, USSR Ministry of Agriculture, Gosgortekhnadzor, USSR Ministry of Fisheries, USSR State Committee for Forestry, the USSR Ministry of Health) and materials from comprehensive territorial schemes for the protection of nature.

BASIC DIRECTIONS FOR PRODUCTION SPECIALIZATION AND THE COMPREHENSIVE DEVELOPMENT OF THE ECONOMY

39. Based upon concepts for the development and location of productive forces, the analysis of the current state of economic development in union republics (regions), and intended paths for the efficient use of economic and natural resources, a determination is made of the basic directions in the long term development and location of productive forces in union republics. This delineates the potentials for increasing the contribution of union republics (regions) to solutions to general state tasks of national social and economic development.

Overall results in production in union republics (regions) are described by indicators of commercial output (in enterprise wholesale prices) and net product (normative) minus turnover tax, in material production sectors. In the union republics, based upon the national economic balance, a calculation is made of indicators for national income used in consumption.

40. The economic structure of a union republic (region) is determined by the contribution of various sectors to gross, commercial and net (normative) output, average annual indicators of the number of workers and fixed productive capital.

The production specialization of a union republic (region) is characterized by preferential development of its economy, based upon natural and economic resources, in order to meet interregional, and its own needs. Sector specialization is divided into profile, having a sizable share in the economic structure of the union republic (region) with regard to commercial, net (normative) output, and in the export of output beyond its borders; and nonprofile, with a small share.

41. The substantiation of production specialization and the comprehensive development of a union republic (region) should begin with a determination of the growth rate, volumes and structure of social product and national income, and of national economy and industry sectors, using several alternatives, with the subsequent selection of the optimal alternative. This is a stage by stage process.

At the first stage (prior to the arrival of sectoral schemes in the republic) production specialization follows the approved territorial schemes, taking into account drafts for the basic directions of economic and social development over the long term and for the next five-year plan, and of possible changes in evaluating natural and economic resources.

In the second stage, (after the arrival of sectoral schemes in the union republic) production specialization substantiation is adjusted upon the suggestion of USSR ministries and departments concerning the development of national economic and industry sectors, territorial production balances and the distribution of output and multipurpose resources (labor, fuel-energy, water, forests, land resource, construction-installation and the capacity of construction organizations).

Territorial balances of multipurpose resources are based upon requirements for them, calculated in material sectoral schemes on an oblast level.

The growth rates for production and intersectoral proportions and ties are adjusted with the help of an intersectoral balance for the production and distribution of the social product. The balance of sector development with national economic demand for final product is reviewed.

42. Based upon balance calculations, changes are made in indicators for the development of extractive and processing sectors, and remarks are prepared on materials for sectoral schemes and suggestions for correcting them.

43. The substantiation of regional agro-industrial complex development and location should make provisions for the following: proportional development of sectors in it, taking local conditions into consideration, coordination in the development of regional and national APKs, the creation of stable international ties in order to meet the demands of the region's population for foodstuffs, with a view to national and regional tastes, and the delivery of regionally produced raw materials and finished products to the country's foodstocks.

The following types of proposals are to be elaborated: on improving the efficiency with which land and labor are used; on improving APK structure and accelerating sector growth, on reducing losses at various stages of production, and on the restructuring of the countryside and the rationalization of the rural population, on the development of social and production infrastructure.

44. Directions in the development and location of agricultural production are determined by the need to maximize the increase in production to meet the country's requirements for agricultural products, to improve their quality, increase the efficiency with which labor and material resources are used and to solve basic social and economic problems in the development of the countryside. Suggestions are to be made on the rational specialization and concentration of production, the strengthening of agro-industrial integration and interfarm cooperation, the development of production and social infrastructure.

The balance method should be widely used in determining the directions for agriculture's development and location. These balances are to be compiled: for agricultural land (including its withdrawal and development), for feed produced in a region, for the production and consumption of grain and other products. Requirements for mineral fertilizers, other material-technical resources and capital investments are to be calculated.

Several alternatives for the development and location of agricultural production should be examined. These should differ in the degree of intensification and industrialization, the directions and methods of resource use, the level of transportation development and in the methods of processing, storing and selling agricultural output.

The development and location of agricultural production should be based upon regionalization which takes into account the totality of natural, economic and social conditions and factors --soil cover, climate, land structure (including agricultural land) the size and location of the rural population. In substantiating alternatives it is necessary to assure intra- and intersectoral linkages. The size of capital investments, the economic efficiency of the long term development and location of agricultural sectors, indicators for the use of fixed productive capital and growth in labor productivity are determined.

45. The substantiation of water resource project development and location is oriented towards satisfying the national economy's water demands, giving priority to the public. The scales and time frames for the construction of comprehensive water resource projects is determined on the basis of water resource balances, the consumption components of which are based upon dynamics in water consumption by sectors of the national economy, taking into account water conservation policies, environmental protection and the accumulation of needed reserves beyond the rated levels. The interconnection of water resource balances of river basins which are in two or more union republics is implemented in the schemes for the comprehensive use and protection of water resources in the USSR. Capital investments, the economic efficiency of

intended water projects, demand for production and labor resources and other economic indicators are determined.

46. The development of transportation should proceed from the need to meet the needs of the national economy and the public of a subsector (production opera) for freight and passenger haulage. On the basis of balance calculations for the production and consumption of the most important types of industrial and agricultural products, a determination is made of the long term freight volume and turnover, of the freight haulage structure for various types of transportation, intra- and interregional freight and passenger flows, the rational combination of various types of transportation, their freight loads, the development of railroad, motor vehicle, water, pipeline and air transportation to support intrarepublic and intraregional needs, the possibility of switching some hauls from railroad to truck and water. Provisions are to be made to eliminate irrational transport-economic ties and hauls and to improve transport services.

The development of motor vehicle transport, highway construction and the potentials of using small rivers for transportation is to be studied in detail.

Alternatives for the development of transportation networks are worked out in accordance with alternatives for the economic and social development of republics (regions) and with the intended sectoral schemes for production location. The most important freight flows and possibilities for their transportation development are to be examined.

The reconstruction of existing and the construction of new transportation facilities is based upon an analysis of the efficiency of possible alternatives, increases in throughput and tonnage capacity (including the use of different types of transportation) necessary for handling the intended freight and passenger flows. This is linked to the development of a unified transportation network for the country. Calculations are to be made of capital investments in the development of all types of transportation.

47. The substantiation of the development and location of construction and its material-technical base should encompass construction and other ministries and departments, construction-installation organizations and enterprises building structural components and materials in operation in a given territory. This should be directed towards handling the work volume required by the schemes for the development and location of a union republic's productive forces.

The volume of construction-installation work is determined for all sources of financing, including major repair of buildings and installations and is brought into accordance with territorial indicators for major construction according to drafts of the basic directions in the social and economic development of the USSR for the long term and the next five-year plan, and for concepts for the development and location of the country's productive forces, prepared by SOPS and NIEI at USSR Gosplan.

The preliminary volumes of construction-installation work are adjusted according to materials from sectoral schemes presented for examination at union republics, and worked out together with these territorial balances for multipurpose resources.

This section is elaborated on the basis of materials prepared by USSR Gosstroy territorial design organizations, taking into account sectoral (departmental) schemes of construction ministries, the USSR Ministry of Power and Electrification, the USSR Ministry of the Coal Industry, the USSR Ministry of Land Reclamation and Water Resources and the USSR Ministry of the Construction Materials Industry in accordance with the methodological instructions approved by USSR Gosstroy and agreed upon by USSR Gosplan .

48. The development and location of enterprises and institutions servicing the public is based upon the type of service and sector -- residential-communal operations, personal services, trade and food services, education, culture, health care, physical culture and social insurance, transportation and communications (for public use).

The development and location of sectors in the service sphere should be oriented towards the long term goals of subsector (production operation) economic and social development, defined to include regional service norms. Long term norm indicators are calculated on the basis of the intended average national level of goods and services consumption, corrected for regional development levels.

Indicators describing development levels and directions for a given subsector (production operation) are worked out for each service sector. The suggestions of the ministry in charge are taken into consideration for spheres subordinate to all-union and union-republic ministries (trade, health, education, culture).

All indicators for the development of service sectors are determined by type of service for the republic as a whole, for segments of the population and per capita.

The development and location of service sectors should help reduce unjustified territorial differences in service standards and stimulate the flow and retention of labor to newly developed regions with labor shortages.

SUBSTANTIATING THE DEVELOPMENT OF PRODUCTIVE FORCES IN UNION REPUBLICS (ECONOMIC REGIONS)

49. Territories restricted for the development of production, in particular because of unfavorable environmental effects, and territories with high priority for the construction of large processing industry enterprises, including those based upon developed infrastructure, are to be specified. Rational directions for the economic development of new territories are to be substantiated.

The basic direction and sequence in the development of medium and small sized towns is are to be determined, measures taken to prevent the further concentration of industry and population in large cities and a system of intraregional settlement and services substantiated.

Directions in the comprehensive economic and social development of territories within union republic (region) -- krays, oblasts, autonomous republics, intrarepublic economic regions (subregions) within TPK.

Based upon the intended directions in the development of productive forces and upon minimal calculated costs, a determination is made of effective alternatives for the location of enterprises (groups) in various sectors of the national economy and industry, the formation of TPK and industrial centers and a calculation is made of the total economic effect from the optimization of intraregional location.

50. A formation scheme, in the form of an appendix to the territorial schemes, is compiled for each TPK and other region specified by the methodological instructions for the General Scheme. Such an appendix includes all essential indicators and calculations, based upon project lists.

51. The inclusion of enterprises (groups) in a TPK takes into account the goals of TPK formation, the synchronized operational introduction of interlinked enterprises, the optimal level of production development, the essential proportions between specialized and service sectors, production infrastructure and the non-productive sphere, as well as the rational use of all types of resources and production wastes.

The location of groups of enterprises in an industrial center is substantiated in accordance with the Regulations [Polozheniye] on the formation, design, planning and financing of groups of enterprises in general projects (industrial centers) approved by the USSR Gosstroy and USSR Gosplan Decree of 25 May 1982, No. 147/129.

51. The list of the most important comprehensive objective territorial programs is drawn up in accordance with the Methodological Instructions for the elaboration of comprehensive objective programs for regional problems, the formation and development of territorial-production complexes approved by the USSR Gosplan Decree of 31 January 1980, No 18.

MAIN CONCLUSIONS AND EVALUATION OF THE EFFICIENCY OF THE INTENDED DEVELOPMENT AND LOCATION OF PRODUCTIVE FORCES.

52. The main conclusions on the development of the national economy, improvements in the sectoral and territorial structure of republic (regional) economies during the long term period examined, and on improving their contribution to the country's economy are formulated.

53. An evaluation is made of the total national economic effect, in total outlays obtained as a result of changes in the sectoral and territorial structure of union republic (region) economies. The national economy effect

is expressed in general indicators describing the growth in national income (net product) and its ratio to outlays to reach intended production levels. In addition, use is made of a system of indicators describing improvements in the efficiency of using direct labor, fixed productive capital and capital investments, indicators for the efficiency of material resource use and for living standards.

54. Proposals are made for planning key problems in the development and location of productive forces of an intersectoral and interrepublic nature, and for urgent scientific-research, design, research and geological exploration work, and for including natural resources and newly developed region into economic circulation.

FOOTNOTES

1. Henceforth, schemes.
2. Prior to their approval by scheme clients, partial methodologies are coordinated with SOPS at USSR Gosplan, and, when necessary, with other organizations indicated in Paragraphs 4 and 10 of the present Methodological Instructions.
3. The schemes for sectors in the service sphere are developed by the appropriate ministries and departments, taking into account all enterprises and facilities in the sector, independently of their departmental subordination.
4. The conclusions of union republic Councils of Ministers for sector schemes are prepared in a manner set by them, with the participation of Councils of Ministers of autonomous republics, and the ispolkoms of kray and oblast soviets of people's deputies, and the plenipotentiaries of USSR Gosplan for economic regions.
5. Scheme for the comprehensive use and protection of water resources.
6. Scheme for the formation of the mineral-raw material base and the development of geological exploration work.
7. For agriculture and some other sectors -- the average annual indicators for the five-year plan. Indicators for the final year of the current five-year plan are taken from the annual plan, with subsequent correction for expected and actual fulfillment (in the materials presented to union republics and SOPS at USSR Gosplan).
- *. Continuation. For the beginning, see PLANOVOYYE KHOZYAYSTVO, 1985, No 10.

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